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(54) SINTERING MATERIAL FOR TOOL

(57)Abstract:
PURPOSE: To improve wear resistance particularly at high temp. by mixing granular cubic boron nitride, titanium nitride, and a granular mixture of aluminum oxide, zirconium oxide, and acicular crystal of silicon carbide in the specific proportion.
CONSTITUTION: This sintering material has a composition which consists of 40-70vol.% granular cubic boron nitride, 15-45vol.% titanium nitride to be the essential component of a binding phase, and 15-25vol.% of a granular mixture of aluminum oxide, zirconium oxide, and acicular crystal of silicon carbide to be accessory component of the binding phase and in which the composition of the accessory component of the above-mentioned binding phase contains 1-5vol.% aluminum oxide and 5-15vol.% acicular crystal of silicon carbide. By using the above-mentioned sintering material, the holding capacity of the CBN grain in the binding phase is improved as compared with the conventional one, wear resistance particularly at high temp. is improved, and also chipping resistance is improved since a sound sintered compact can be obtained.

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